



### Features

- Measuring ranges 0...1 bar up to 0...400 bar
- Linearity error including hysteresis <+ 0.2 % f.s.
- Piezoresistive measuring system
- Internal diaphragm (type series CB60 . .)
- Flush mounted diaphragm (type series CE61 . .)
- Wetted parts of stainless steel; completely welded
- Stainless steel housing as standard or field housing
- Degree of protection IP 65, IP 67 option
- Output signal: 4...20 mA
- Process temperature up to 140 °C (short term, for sterilization)

### Options

- Explosion protection for gases
- Classification per SIL 2
- Approval German Lloyd

### Application area

- Chemical and petrochemical industry
- Process engineering
- General process technology

### Application

The device converts pressure measurements into a load-independent current signal. Because of their robust design these transmitters are suitable for use in tough environments. The process temperature is allowed up to 140 °C (short term). The flush mounted diaphragm allows dead-zone free measuring. The transmitters have extensive circuitry which ensures electromagnetic compatibility.

### Technical Data

#### Case design

##### Designs

- field housing IP 65 or IP 67, with cable gland
- right-angle plug per DIN EN 175301-803-A (DIN 43650, model A), IP 65
- cable connection, IP 67
- circular connector M12, IP 65
- case material stainless steel
- electronics encapsulated with silicone.
- Inner chamber aeration for measuring ranges < 16 bar over case thread or connection cable (depending on design)

#### Process connection

see page 2 and order code for variants.  
Material-no.: 1.4404 (316L) for sleeve and diaphragm.

O-ring seal from NBR (type series CE6100)

#### Temperature ranges

ambient temperature range: -25...+70 °C  
storage temperature range: -40...+90 °C  
process temperature:  

- standard: -10...+80 °C
- with temperature decoupler  
(short term, for sterilization)
- other temperature ranges upon request

#### System filling

foodstuff oil FD1 (USDA-H1 per FDA)

#### Measuring ranges/overrange limits

see order details  
intermediate measuring ranges upon request

#### Response time

≤ 20 ms

#### Measuring accuracy

linearity error incl. hysteresis: <+ 0.2 % f.s.  
(<+ 0.3 % f.s. for measuring ranges  
≥ 0...60 bar)  
fixed-point adjustment  
accuracy of adjustment: <± 0.2 % f.s.  
temperature effect im compensated temperature range 0...50 °C:  

- zero point < 0.2 %/10 K f.s.
- span < 0.2 %/10 K f.s.

other values upon request

#### Auxiliary energy supply

standard design:  

- nominal voltage 24 V DC
- function range 6...30 V DC
- max. allowable operating voltage 30 V DC

#### Supply voltage influence

≤ 0.01 % f.s. / V

#### Signal output

4...20 mA, 2-wire circuitry

#### Current limitation in output signal

max. output current approx. 30 mA

#### Adjusting range

approx. ± 5 % f.s.  
zero point and measuring span separately  
adjustable

#### Burden

##### 2-wire circuitry

standard design  $R_a = \frac{U_B - 6 \text{ V}}{20 \text{ mA}}$  (KOhm)  
 $U_B$  = operating voltage  
 $R_a$  = max. permissible burden resistance  
(incl. lead)

#### Burden influence

for 500 ohm burden change: ≤ 0.1 % f.s.

#### Functional safety

EN 61508, classification per SIL 2,  
TÜV-Reg.-No. 44 207 1038 1144

#### Ex approval

CENELEC approval according to ATEX  
explosion protection intrinsically safe  
TÜV 00 ATEX 1557 X

##### Ex II 2G Ex ib IIC T6

- $U_{\text{max}}$  ≤ 30 V DC
- $I_{\text{max}}$  ≤ 150 mA
- $P_{\text{max}}$  ≤ 1 W
- $C_i$  ≤ 49 nF
- $L_i$  ≤ 33 µH

#### GL approval (German Lloyd)

per certificate no. 58798-08 HH

#### Weights

- case with connector approx. 200 g
- field housing: + approx. 260 g
- with temperature decoupler + approx. 50 g

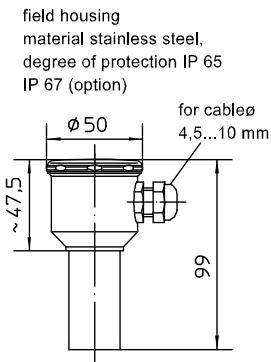
#### Installation position

any

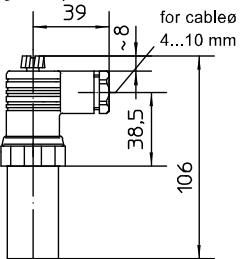
#### EMC test

- noise immunity according to EN 50082 section 2, version March 1995 issue for industry
- emitted interference according to EN 50081 section 1, 1993 issue for residential and industrial areas

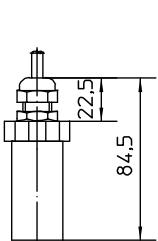
Device emits no radiation of its own

**Dimensions/Designs**

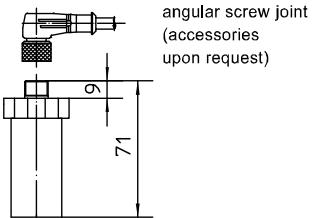
right angle plug  
DIN EN 175301-803-A  
(DIN 43650 Form A)  
degree of protection IP 65



cable connection  
degree of protection IP 67  
(cable aeration)

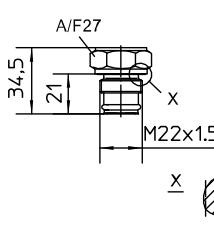
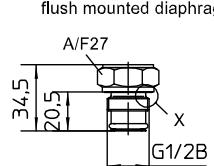
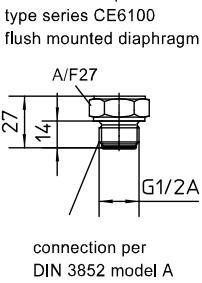
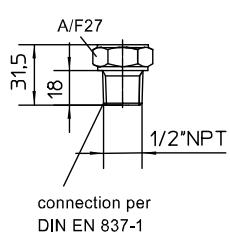
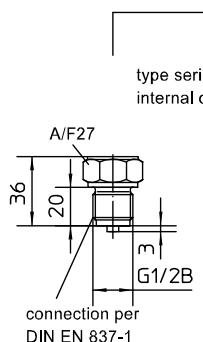


circular connector M12  
degree of protection IP 65



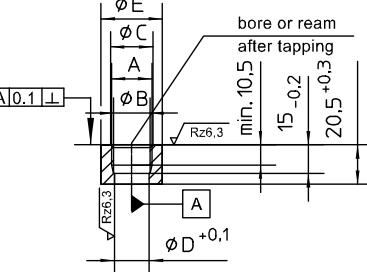
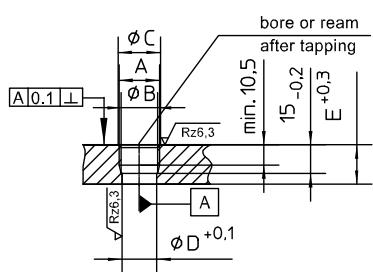
direct  
for process temperatures  
up to 80°C

temperature decoupler  
for process temperatures up to 140°C  
(short term, for sterilization)

**Process connections****screw-in hole/welded socket for flush mounted diaphragm with O-ring (type series CE6100)**

screw-in hole  
(process side)

welded socket  
material stainless steel



A	Ø B	Ø C	Ø D	E
G 1/2	19.4	21.3	18.2	20.5
M 22x1.5	20.7	22.6	18.2	21

A	Ø B	Ø C	Ø D	Ø E	order code
G 1/2	19.4	21.3	18.2	32	MC1000-A1

**Connection diagram**

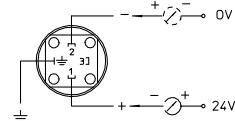
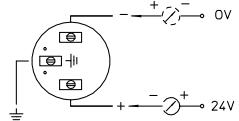
field housing

right-angle plug

cable connection

circular connector M12

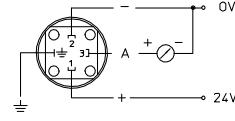
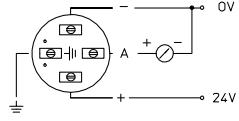
2-wire  
connection



brown + supply  
white - ground  
green - supply

4 black  
1 brown 24V  
3 blue 0V  
2 white

3-wire  
connection



brown + supply  
white - ground  
green - supply  
black A output

4 black  
1 brown 24V  
3 blue A  
2 white

**Order Details** - please give additional specifications for models not listed -**Pressure transmitter COMPACT for general applications**

design version	internal diaphragm	· for process temperature up to + 80 °C (standard)			<b>CB601 .</b>					
	flush mounted diaphragm	· for process temperature up to + 140 °C (short term, for sterilization)			<b>CB602 .</b>					
	flush mounted diaphragm	· for process temperature up to + 80 °C (standard)			<b>CE611 .</b>					
	flush mounted diaphragm	· for process temperature up to + 140 °C (short term, for sterilization)			<b>CE612 .</b>					
Ex-protection	· without			0						
	·  II 2G Ex ib IIC T6			1						
	meas. range	overload limit (bar)	<b>CB6000</b> connection G 1/2 B/ 1/2 NPT	<b>CE6100</b> connection with O-ring G 1/2 B/ M22x1.5	<b>CE6100</b> connection DIN 3852 G 1/2 A					
	0...1 bar	3	x	x	-			<b>A1053</b>		
	0...1.6 bar	10	x	x	x			<b>A1054</b>		
	0...2.5 bar	10	x	x	x			<b>A1055</b>		
	0...4 bar	20	x	x	x			<b>A1056</b>		
	0...6 bar	60	x	x	x			<b>A1057</b>		
	0...10 bar	60	x	x	x			<b>A1058</b>		
	0...16 bar	60	x	x	x			<b>A1059</b>		
	0...25 bar	60	x	x	x			<b>A1060</b>		
	0...40 bar	100	x	x	x			<b>A1061</b>		
	0...60 bar	200	x	x	x			<b>A1062</b>		
	0...100 bar	200	x	-	x			<b>A1063</b>		
	0...160 bar	250	x	-	x			<b>A1064</b>		
	0...250 bar	750	-	-	x			<b>A1065</b>		
	0...400 bar	750	-	-	x			<b>A1066</b>		
	-1...0 bar <sup>2</sup>	3	x	x	-			<b>A1086</b>		
	-1...0.6 bar <sup>2</sup>	10	x	x	x			<b>A1087</b>		
	-1...1.5 bar <sup>2</sup>	10	x	x	x			<b>A1088</b>		
	-1...3 bar <sup>2</sup>	20	x	x	x			<b>A1089</b>		
	-1...5 bar <sup>2</sup>	20	x	x	x			<b>A1090</b>		
	-1...9 bar <sup>2</sup>	60	x	x	x			<b>A1091</b>		
	-1...15 bar <sup>2</sup>	60	x	x	x			<b>A1092</b>		
	0...1 bar abs	3	x	x	-			<b>B1053</b>		
	0...1.6 bar abs	10	x	x	x			<b>B1054</b>		
	0...2.5 bar abs	10	x	x	x			<b>B1055</b>		
	0...4 bar abs	10	x	x	x			<b>B1056</b>		
	0...6 bar abs	60	x	x	x			<b>B1057</b>		
	0...10 bar abs	60	x	x	x			<b>B1058</b>		
	0...16 bar abs	60	x	x	x			<b>B1059</b>		
	0...25 bar abs	60	x	x	x			<b>B1060</b>		
output signal	· 4...20 mA, 2-wire technology			H1						
process connection	type series CB6000	· G 1/2 B, inline diaphragm seal for meas. ranges 0...1 to 160 bar				K1010				
		· 1/2" NPT, inline diaphragm seal for meas. ranges 0...1 to 160 bar				K1030				
case/ electrical connections	type series CE6100	· G 1/2 B, flush mounted diaphragm with O-ring for meas. ranges 0...1 to 60 bar				K1010				
		· M22x1.5, flush mounted diaphragm with O-ring for meas. ranges 0...1 to 60 bar				K1020				
		· G 1/2 A, flush mounted diaphragm acc. to DIN 3852, for meas. ranges 0...1.6 to 400 bar				K1022				
	field housing of stainless steel, with cable gland	· IP 65, measuring ranges ≤ 16 bar, only				T410				
		· IP 67				T420				
	· right angle plug according to DIN EN 175301-803-A (DIN 43650, model A), IP 65					T110				
	cable connection IP 67	· 2 m cable length				T310				
		· 5 m cable length				T311				
		· 10 m cable length				T312				
		· cable length as in writing				T319				
· circular connector M12, IP 65 <sup>1</sup>						T120				
<b>additional features (to be indicated in case of need, only):</b>										
functional safety per EN 61508, classification per SIL 2								<b>W2602</b>		
approval German Lloyd								<b>W2652</b>		
<b>Order code (example):</b>						<b>CB6010</b>	<b>A1057</b>	<b>H1</b>	<b>K1010</b>	<b>T410</b>

**accessories**

· welded socket of stainless steel G 1/2"

**MC1000-A1**

x = available

<sup>1</sup> connectors with cable connection see product group D6<sup>2</sup> negative relative pressure ranges (e.g. -1...+1 bar) are adjusted at works to 0...100%, e.g. 4...20mA.

Long-term vacuum measurements at temperatures above +50°C may cause changes in the properties of the measurement device.

Vacuum-proof designs are available upon request.